



The mining sector in 2030: Plotting the way forwards

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Scenarios for the Global Mining & Metals Sector 2030



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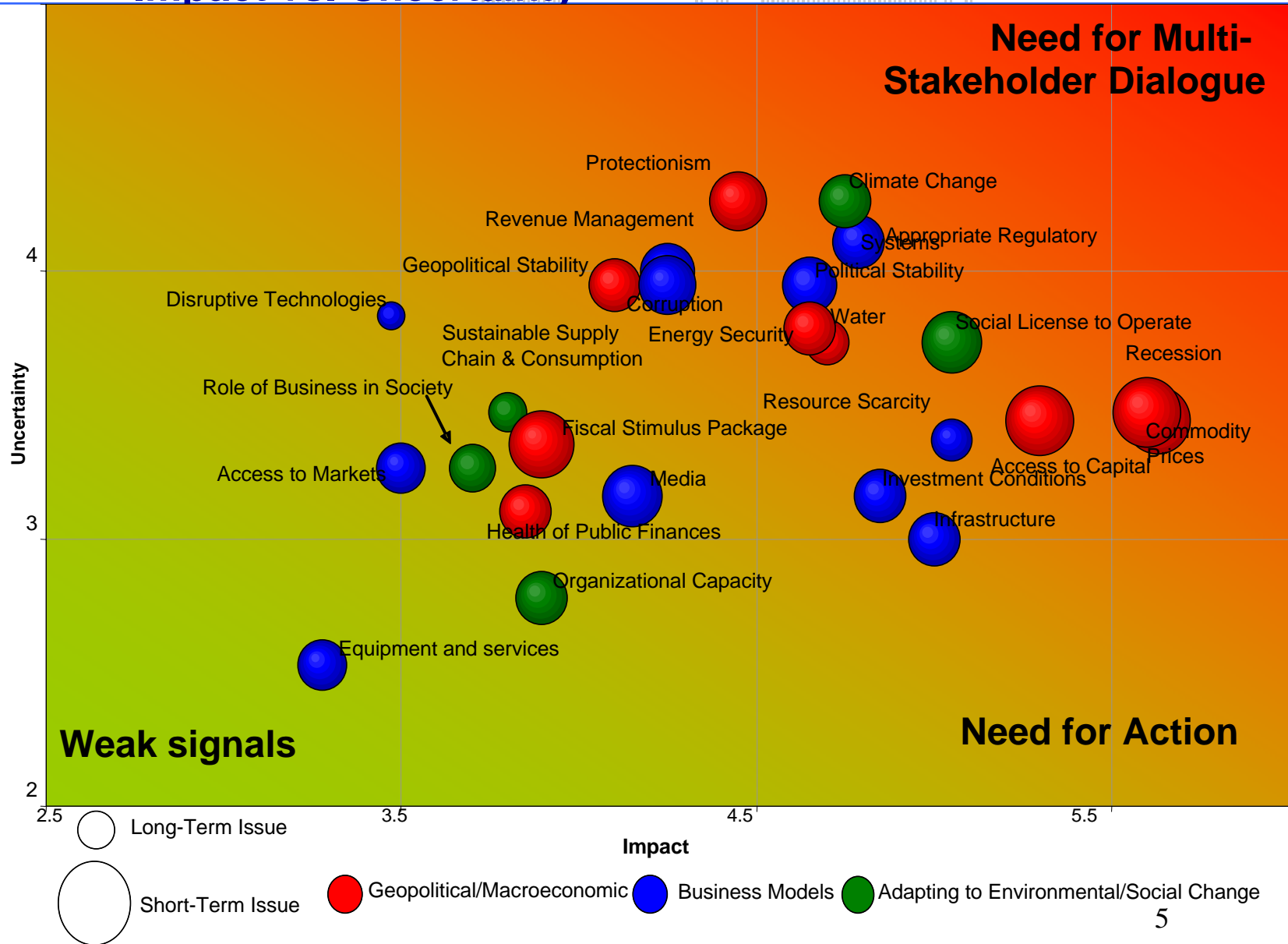


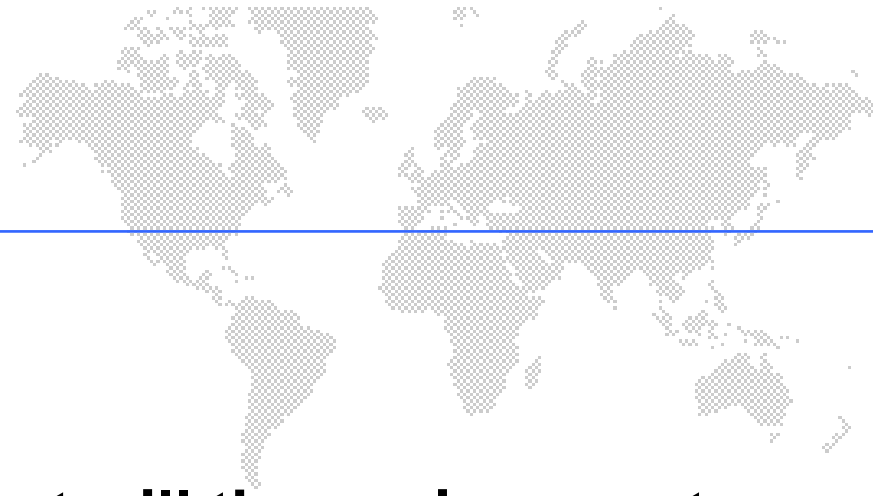
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Mining & Metals Industry: 2010 Issues

Impact vs. Uncertainty

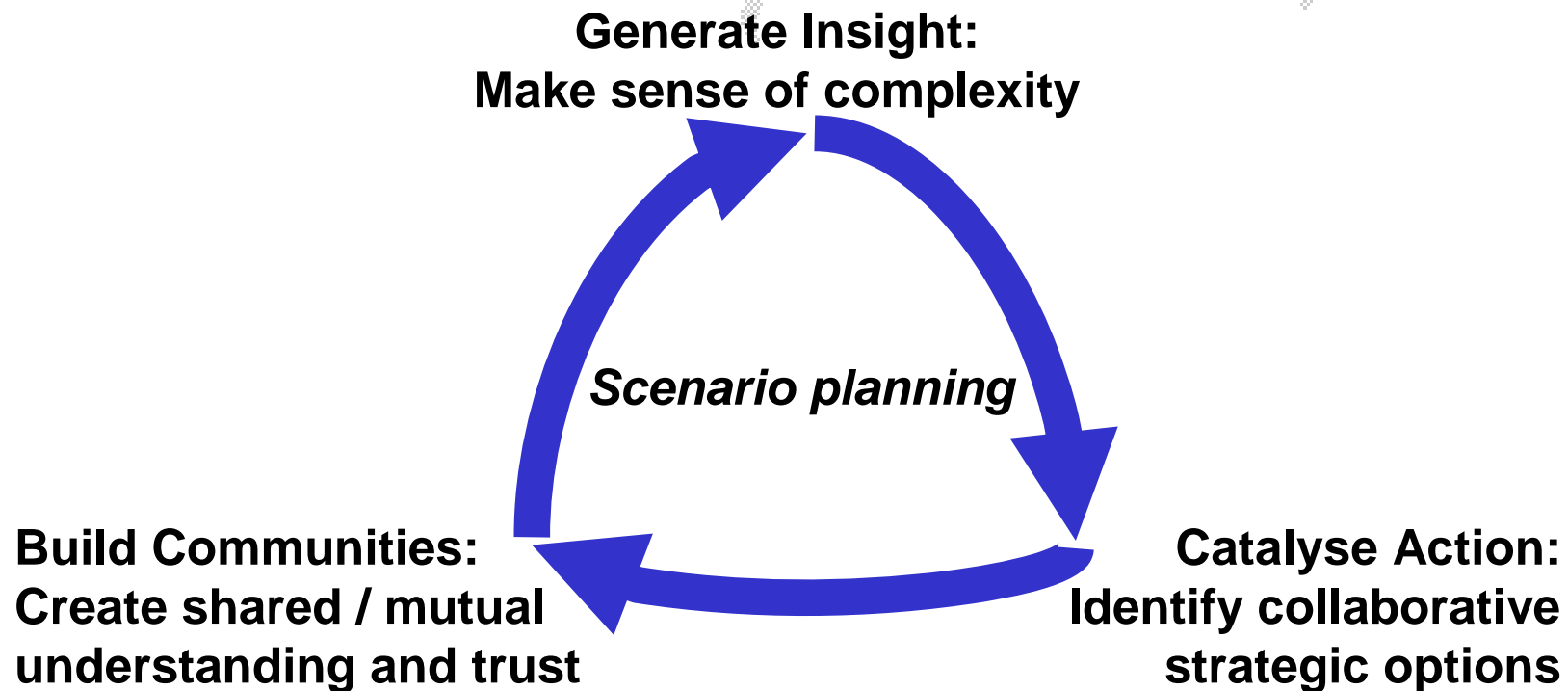
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**What will the environment
for the global mining & metals sector
look like in 2030?**

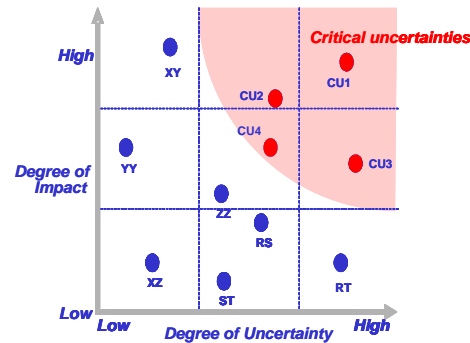
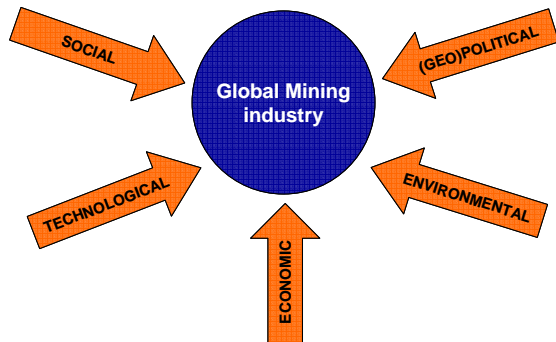
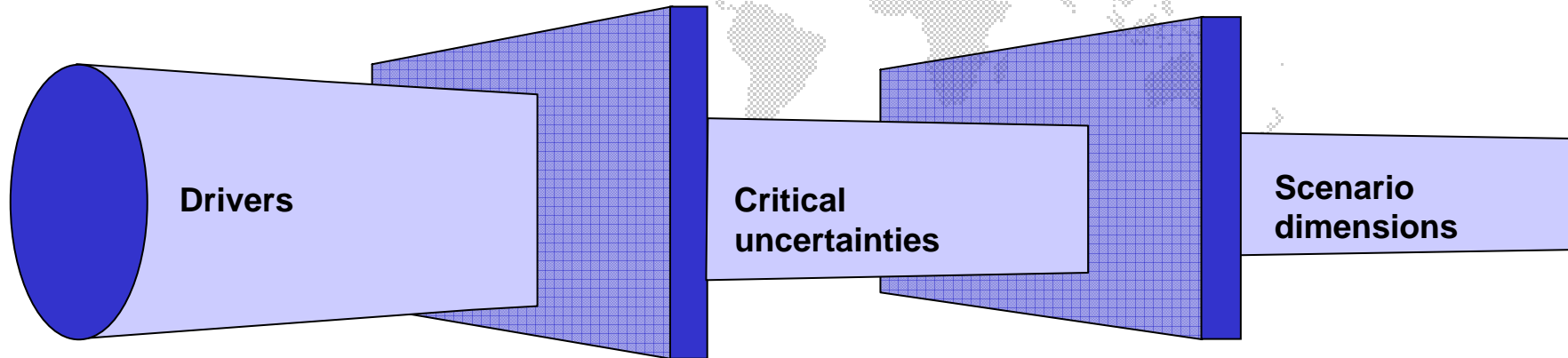
Scenario Planning Approach



Over 250 stakeholders engaged in workshops around the world



Scenario Development Process



Scenario dimensions

Geo-economic landscape	<ul style="list-style-type: none">• Will Asia dominate the geo-economic landscape or will economic power be spread across regions?• Will cross-border flows be open or closed?• Will markets be free or controlled?
Geopolitical landscape	<ul style="list-style-type: none">• Will the geopolitical landscape be stable or unstable?• Will there be ideological convergence or a renewed divergence between regions?
Economic outlook	<ul style="list-style-type: none">• Will volatility be of the more predictably cyclical kind, or more extreme and unpredictable?• Will average global GDP grow or stagnate/decline?
Environmental outlook	<ul style="list-style-type: none">• Will the response to climate change be decisive and ambitious or reactive and incremental?

Creating relevant, plausible, challenging and diverse scenarios

Asia dominates	Regional spread	Stable	Unstable
Open cross-border flow	Closed cross-border flow	Ideological convergence	Ideological divergence
Free market	Controlled market	Extreme volatility	Cyclical volatility
Decisive response	Passive response	GDP growth	GDP decline
Incremental response	Radical response		



- Inductive method to facilitate very rich discussions in 9 workshops
- The 3 scenarios have been selected after testing the potential scenarios on:
 - Relevance
 - Plausibility
 - Challenging nature
 - Diversity
- The 3 scenarios have been validated by the Steering Board and the Advisory Board

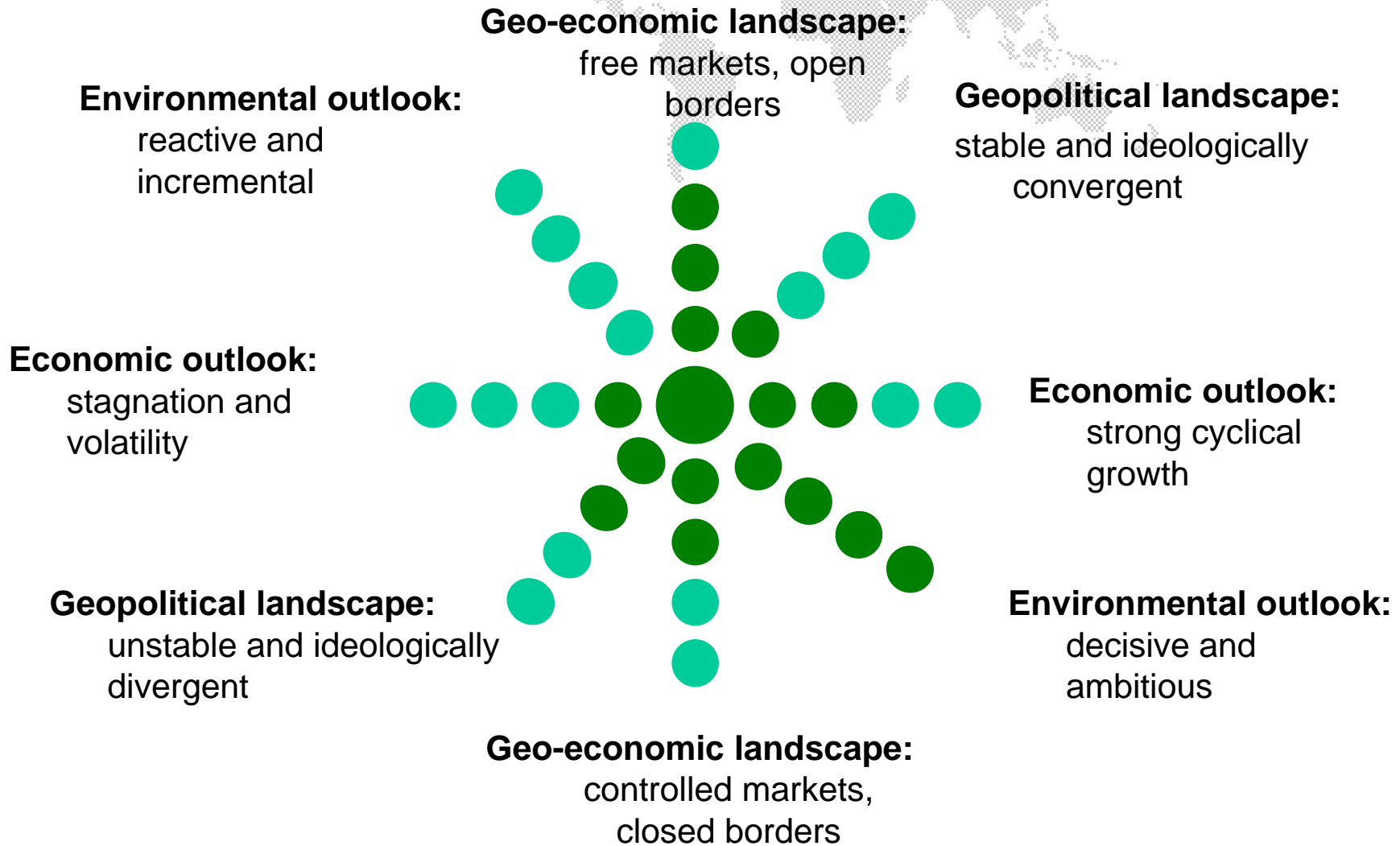
Scenarios Under Development

Green Trade Alliance

Resource Security

Rebased Globalism

Green Trade Alliance



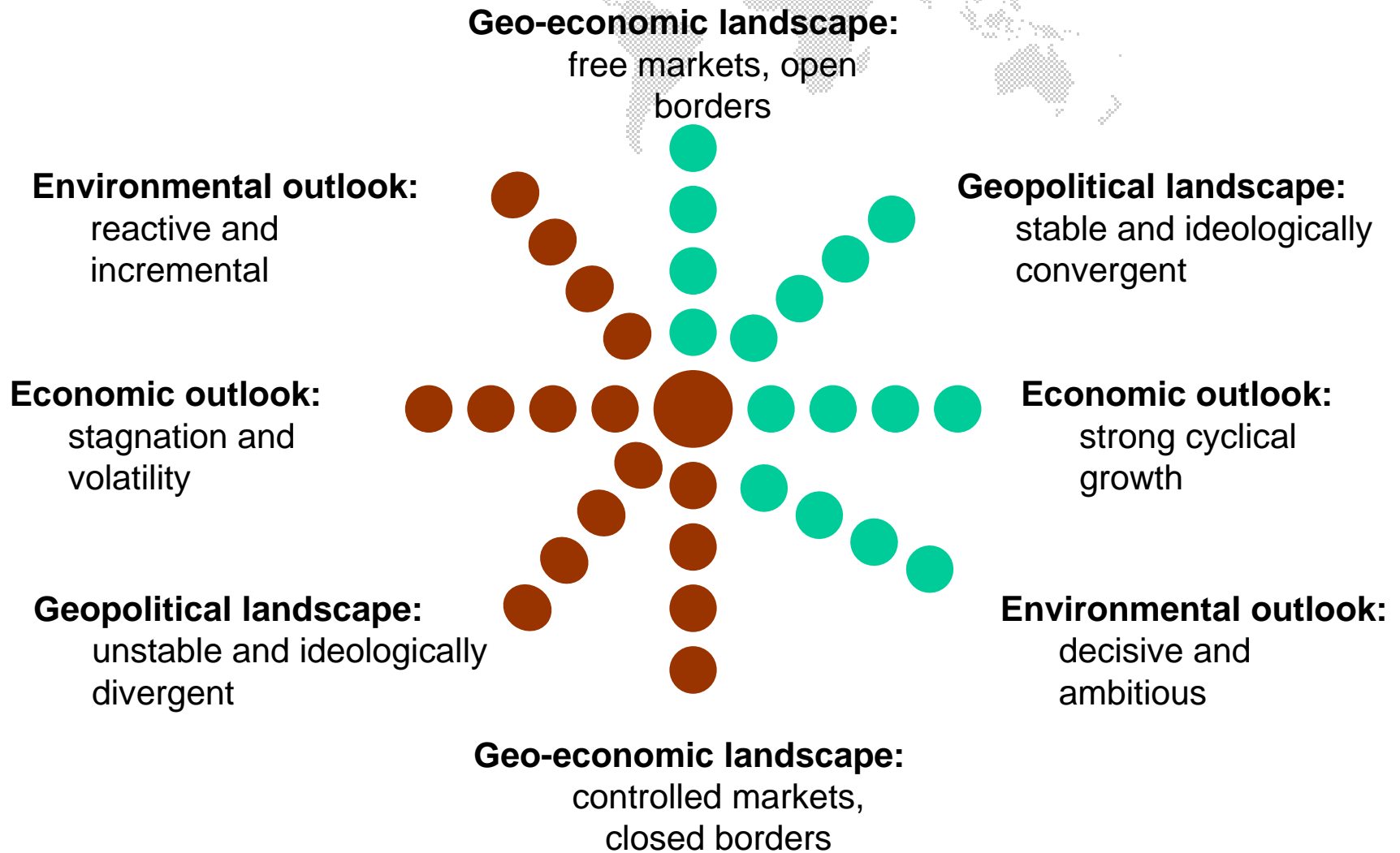


Green Trade Alliance



- Environmental standards are used as a protectionist measure by the GTA economies
- Limited cross-border flows between the GTA and non-GTA states but strong trading levels within each sphere
- Divided world in which global institutions are irrelevant
- Tense relations between the GTA and non-GTA states as they compete for resources with different approaches
- Emergence of Sustainable Trade Organisation facilitating and enforcing GTA trade agreements
- Global GDP growth averages around 2% annually
- Implementation of the “cradle to cradle” metals and minerals stewardship strategy
- Investment capital comes with ‘green ties’ or ‘no ties’ depending on its origin
- In GTA countries, decisive and radical environmental policy and changing consumer behaviours
- In some non-GTA countries, passive approaches motivated by overcoming impediments to economic growth
- In some non-GTA countries, no environmental response

Resource Security

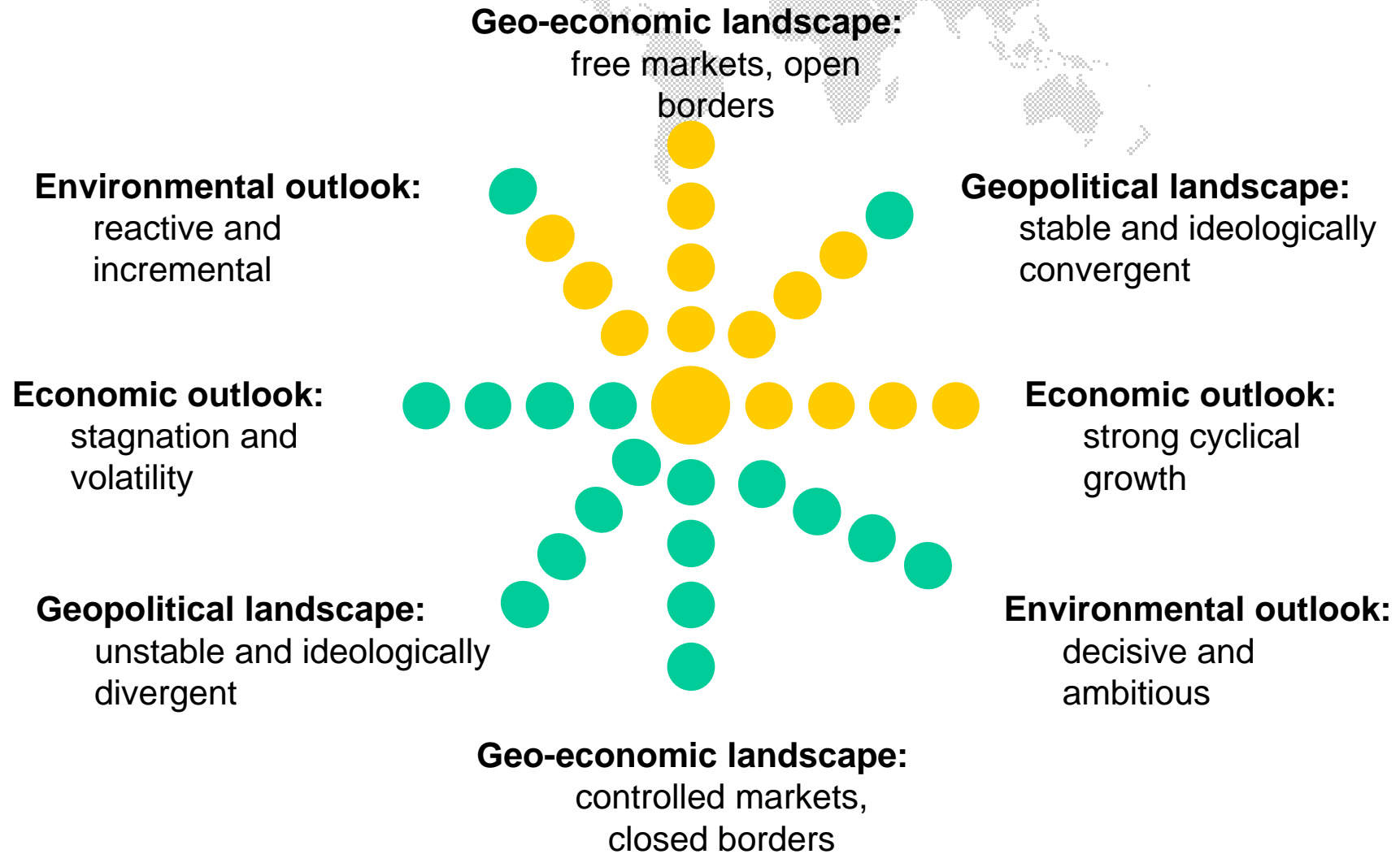




Resource Security

- Markets are shaped by state interventionism
- Trade is defined by a complex web of protectionist barriers and preferential agreements
- Limited cross-border flows of products, labour and capital
- Globalisation stalls amid international tensions and the focus on national self-interests
- High geo-political instability where international institutions have faded into irrelevance
- The forming of partnerships is increasingly based on ideology
- Global GDP growth averages around 1.5% annually
- Many countries revert to some form of import substitution strategy
- Limited available capital for the mining sector
- Country risk limits private sector capital for overseas investment
- Sudden and unpredictable resource constraints lead prices to be extremely volatile
- Resources and technologies that are most readily available domestically are favoured, irrespective of impact on environment

Rebased Globalism





Rebased Globalism



- Economic power is held by strong demand markets such as the EU, the US, the BICs and countries with strategic resources
- Cross-border flows are open, relying on bilateral trade agreements; markets apply free market principles, privatising and liberalising financially
- Some states try to capture more downstream value from their commodities through in-country processing and manufacturing
- Multi-polar world focusing on reaping the benefits of globalisation and interconnectedness
- Global institutions prevail, but international decision-making is cumbersome as there are more players included in the process
- Proliferation of local regulations, which are strongly enforced
- Global GDP growth averages around 4% annually
- High levels of investment capital are available, coming with strict conditions on social development aspects of the investments
- Demand for commodities is high, as are prices; companies from emerging countries are topping the global industry rankings
- Focus on local laws protecting local environments
- With many voices at the table, global governance institutions make no significant progress on CO2
- Growing acceptance that it is now too late to prevent climate change and efforts must switch to adaptation

Metals & Mining Scenarios to 2030: *Initial implications*

Green Trade Alliance

Need to reflect on the incentives to entice resource-rich countries to join the GTA

Need to determine the value of non-GDP/indirect benefits of a sustainable development model

States and businesses need to review value chains as a result of altered trade flows

Need for companies to review their corporate strategy and the implications for organization structure

Technological choices will be determined based on the availability of specific materials

Need to rethink the areas of competitive advantage for metals and mining companies

Potential for metals and mining companies operating in the non-GTA to dismiss sustainability practices

Resource Security

Significant substitution for products, minerals, metals and other resources

Diversification of domestic manufacturing industries

International operations face economic challenges, bankruptcies, and prospects of nationalization

Negative effect on the wider economic development around abandoned mining activities

Rebased Globalism

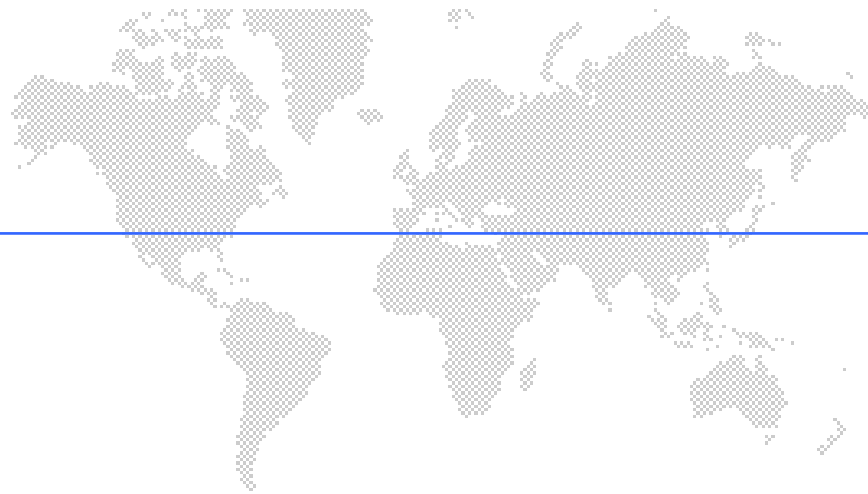
Challenge for companies to navigate at the same time both global and local market conditions

Trade-off between efficiency and social issues (eg automation versus job creation)

Longer resource development due to more in-depth engagement with stakeholders

Blurring boundaries between stakeholders' responsibilities

Increased operating costs as inputs such as energy and water become more expensive



Thank you

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